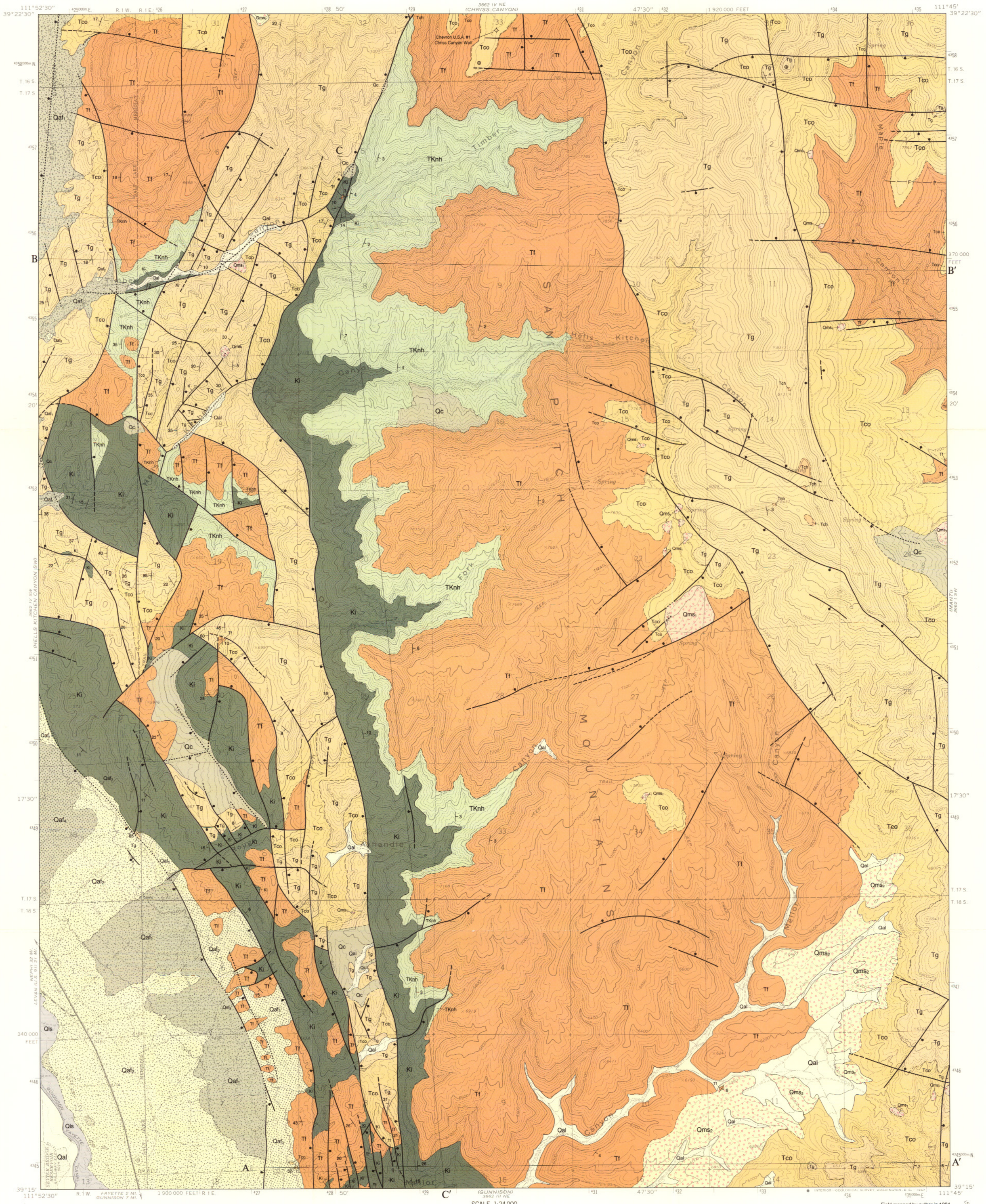
STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
UTAH GEOLOGICAL AND MINERAL SURVEY

Published and sold by
UTAH GEOLOGICAL AND MINERAL SURVEY
Genevieve Atwood, Director
606 Black Hawk Way
Salt Lake City, Utah 84108

Plate 1
Utah Geological and Mineral Survey Map 98
Provisional Geologic Map of Hells Kitchen Canyon SE Quadrangle



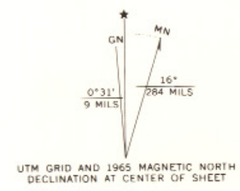
Base map from U.S. Geological Survey,
Hells Kitchen Canyon SE Quadrangle, 1965

Field mapped by author in 1984
Dr. Malcolm P. Weiss, Thesis Advisor/Chairman, NIU
J. W. Parker, Cartographer

SCALE 1:24 000

1 0 1 MILE
1000 0 1000 2000 3000 4000 5000 6000 7000 FEET
1 .5 0 1 KILOMETER

CONTOUR INTERVAL 40 FEET
DOTTED LINES REPRESENT 20-FOOT CONTOURS
DATUM IS MEAN SEA LEVEL



UTM GRID AND 1965 MAGNETIC NORTH
DECLINATION AT CENTER OF SHEET

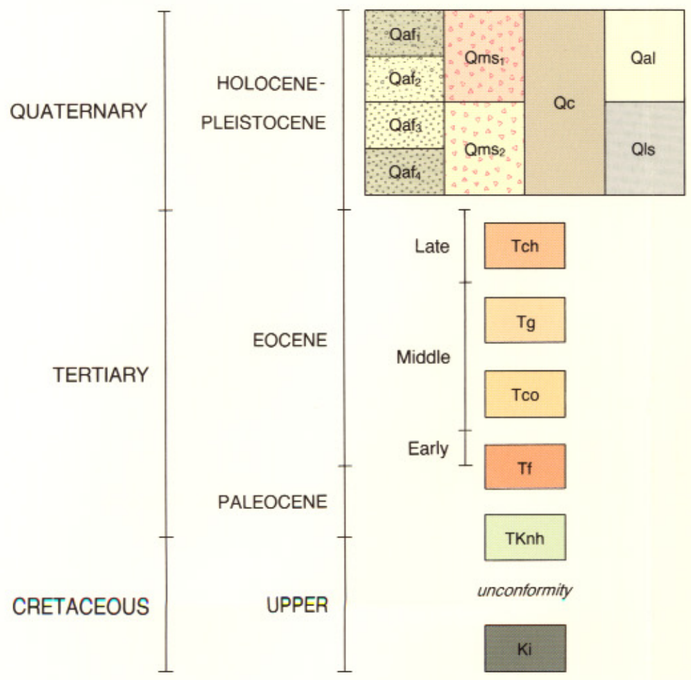
PROVISIONAL GEOLOGIC MAP OF THE HELLS KITCHEN CANYON SE QUADRANGLE, SANPETE COUNTY, UTAH

by
Stephen R. Mattox

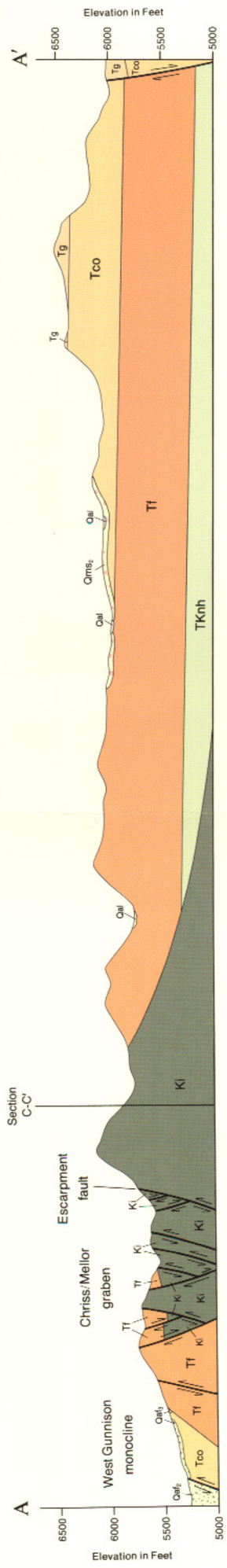
1987

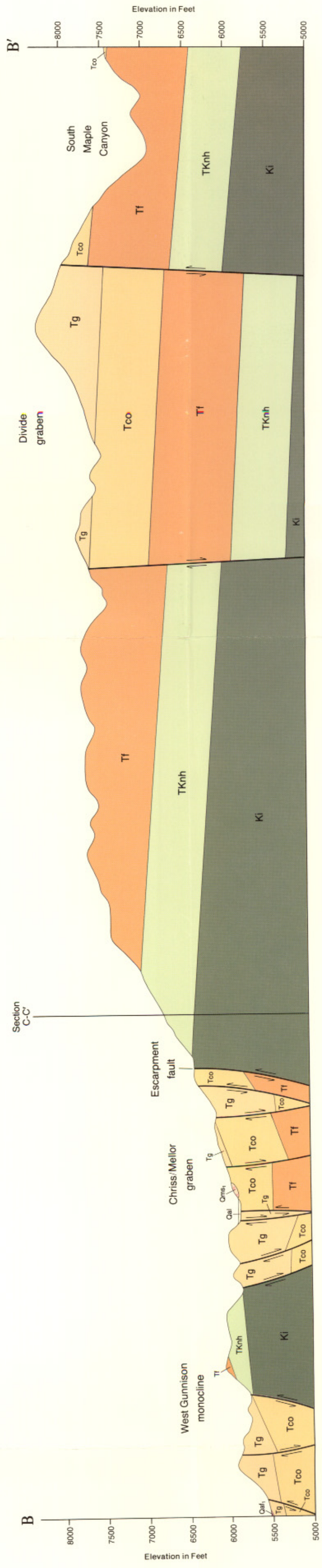
QUADRANGLE LOCATION

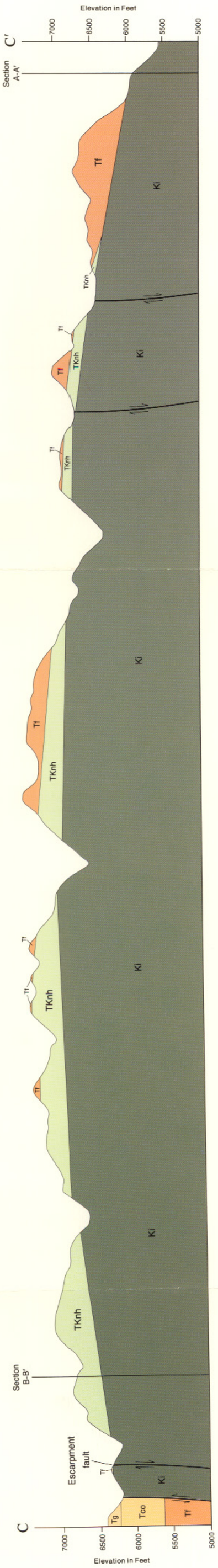
CORRELATION OF MAP UNITS



SYSTEM	SERIES	FORMATION		SYMBOL	THICKNESS feet (meters)	LITHOLOGY
QUATERNARY	PLEISTOCENE/HOLOCENE	Surficial deposits		Q	0-300 (0-90)	
		Crazy Hollow Formation		Tch	60 (18)	
TERTIARY	EOCENE	Green River Formation	Upper Member	Tg	200-600 (60-185)	
			Lower Member	Tg	400-900 (120-275)	
		Colton Formation		Tco	280-440 (85-135)	
	PALEOCENE	Flagstaff Formation		Tf	820-940 (250-287)	
CRETACEOUS	MAASTRICHTIAN	North Horn Formation		TKnh	West 0-125 (0-38); East 0-830 (0-253)	West / East
	CENOMANIAN/TURONIAN EARLY CAMPANIAN	Indianola Group		Ki	8760 (2670)	







Note: 2x vertical exaggeration on cross sections

MAP SYMBOLS

CONTACT
Dashed where inferred or poorly exposed

HIGH-ANGLE NORMAL FAULT
Dashed where inferred, dotted where concealed; bar and ball on downthrown side

FRACTURE

20 — Inclined
⊕ — Horizontal

STRIKE AND DIP OF BEDS

Drilled well (dry hole)

DESCRIPTION OF MAP UNITS

Qal — Alluvium—*Light brown mud, silt, sand, cobbles and boulders, poorly sorted and structureless, mostly in canyon floors.*

Qc — Colluvium—*Mud, silt, sand, cobbles, and boulders, gravitationally transported to the base of steep slopes and cliffs.*

Qaf_1 — Youngest alluvial fan deposits—*Mud, silt, sand, cobbles, and boulders, in well-formed fans overlying Qaf_2.*

Qaf_2 — Young alluvial fan deposits—*Coalescing fans with the average clast size decreasing from the mountain front.*

Qaf_3 — Old alluvial fan deposits—*Mud to large boulders in fans up to 200 ft (61 m) higher than the younger Qaf_1 and Qaf_2.*

Qaf_4 — Oldest alluvial fan deposits—*Mud to large boulders with gravel more abundant than sand, lying up to 165 ft (50 m) above the younger Qaf_1 and Qaf_2.*

Qls — Lake Bonneville sediments—*Light brown fine and very fine sand, silt, and mud, thinly bedded or laminated.*

Qms_1 — Younger mass movement deposits—*Earth flows and debris flows; pebbles to boulder-sized fragments covering relatively small areas.*

Qms_2 — Older mass movement deposits—*Debris flows consisting of material from the Colton and Green River Formations, appearing in larger hummocky and dissected masses.*

Tch — Crazy Hollow Formation—*Grayish-orange cherty sandstone with scattered black chert pebbles; only thin remnants on quadrangle.*

Tg — Green River Formation—*Mostly grayish-orange to yellowish-brown freshwater limestone and grayish orange sandstone in upper part and mostly greenish-gray mudstone in lower part.*

Tco — Colton Formation—*Variegated mudstone, thin pale green limestone and yellowish-gray sandstone, generally less resistant and more prone to landsliding than units above and below.*

Tf — Flagstaff Limestone—*Yellowish-gray to pale red argillaceous limestone, limestone, and sandy limestone, with a few sandstone beds to the west; ledges and cliffs more common than slopes.*

TKnh — North Horn Formation—*Conglomerate, sandstone, and limestone, grayish to the east and reddish in western exposures.*

Ki — Indianola Group, undifferentiated—*Grayish clast-supported conglomerate, grayish-orange sandstone, and pebbly sandstone, often with white to light gray bleached zones at the top. Upper surface is a regional unconformity.*